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EPN Comments on the North Carolina Environmental Management Commission's PFAS Minimization and Monitoring Proposed Rules

Proposed Rules 15A NCAC 02B .0512 and 15A NCAC 02H .0923.

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The Environmental Protection Network (EPN) harnesses the expertise of more than 750 former Environmental Protection Agency (EPA) career staff and confirmation-level appointees from Democratic and Republican administrations to provide the unique perspective of former regulators and scientists with decades of historical knowledge and subject matter expertise.

The North Carolina Action Network (NCAN) is a working group within EPN that brings together EPA alumni and allies across North Carolina to help protect clean air, safe water, and healthy communities in the state. Through NCAN, we elevate trusted local voices to new audiences, support communities, coordinate volunteer action, and help mentor the next generation of environmental leaders.

Introduction

Thank you for the opportunity to comment on the North Carolina Environmental Management Commission's ("the Commission") proposal to adopt perfluorooctanesulfonate (PFOS), perfluorooctanoic acid (PFOA), and hexafluoropropylene oxide dimer acid (GenX, or HFPO-DA) Monitoring and Minimization Rules 15A NCAC 02B .0512 and 15A NCAC 02H .0923. EPN agrees with the Commission that Per- and polyfluoroalkyl Substances (PFAS), often referred to as "forever chemicals," as a category of pollutants, pose a significant concern for public health and the environment in North Carolina and across the world. EPN agrees that regulations and reduction of PFAS is critical. However, EPN is concerned that the current proposal is inadequate to provide the public health protection needed. EPN's concerns include both the scope of the proposal and the lack of enforceability and accountability for the sources in the proposal. The following presents EPN's more detailed comments.

Limited scope of the PFAS covered

EPN is concerned that the proposal only targets three PFAS compounds—PFOA, PFOS and GenX. Industries in North Carolina use a multitude of "forever chemicals" well beyond the three covered in this proposal. Moreover, some PFAS compounds, often referred to as "precursors," can transform through oxidation in the environment or the human body into other persistent and highly toxic PFAS forms. This provides more incentive to monitor for more PFAS compounds. EPA Method 1633,[1] which is the method proposed by the EMC for testing, looks for 40 different PFAS

[1] https://www.epa.gov/system/files/documents/2024-12/method-1633a-december-5-2024-508-compliant.pdf

compounds, all of which have serious health concerns. PFOA and PFOS are no longer domestically manufactured, so these compounds are not representative of current industrial discharges. Since Method 1633 already tests for 40 PFAS compounds, the rule should include them in the requirements for monitoring. The addition of these compounds to the rule requirements would not only provide more information for minimization planning but would do so at minimal additional cost to the sources. EPN also believes requiring additional compounds to be reported would streamline reporting by sources since they would not have to sift out just PFOA, PFOS and GenX, which would require additional data handling.

As the intent of the EMC rule is to monitor industrial discharges it should do so comprehensively and representatively, including PFAS precursors. The Total Oxidizable Precursors (TOPs) Assay,[2] an existing analytical method, oxidizes these precursors, as they would be in the environment and human body, to quantifiable forms, including PFOA and PFOS, as well as other PFAS compounds targeted by Method 1633.

EPN not only advises that the EMC require the monitoring of all 40 Method 1633 target PFAS compounds, but also require the inclusion of the TOPs assay for industrial PFAS precursors in order to comprehensively and representatively monitor industrial discharges.

Limited scope of sources covered in the proposal (Landfills; Community scale treatment plants)

1. **Landfills**

Currently the North Carolina Department of Environmental Quality (NCDEQ) regulates PFAS discharge and leachate from landfills. The current requirements include:

- Leachate and Wastewater Permits: Landfills that discharge treated leachate or wastewater must secure National Pollutant Discharge Elimination System (NPDES) permits. Permitting requires strict limits to reduce PFAS from entering rivers and local groundwater supplies.
- Groundwater Limits: Landfills must adhere to Interim Maximum Allowable Concentrations (IMACs) for PFAS in groundwater. Landfills with documented contamination must negotiate corrective action plans and Special Orders by Consent (SOCs) with the NCDEQ to phase in treatment and removal.
- Environmental Monitoring: The NCDEQ's Solid Waste Section enforces strict PFAS Monitoring Guidance, requiring permitted sites to test for emerging compounds and report data regularly.
- Air and Gas Permits: Landfills managing landfill gas must navigate state toxic emission rules, and facilities beneficial-using this gas must follow specific site-treatment plans.[3]

[2] Ateia M, Chiang D, Cashman M, Acheson C. Total Oxidizable Precursor (TOP) Assay-Best Practices, Capabilities and Limitations for PFAS Site Investigation and Remediation. Environ Sci Technol Lett. 2023;10(4):292-301. doi:10.1021/acs.estlett.3c00061

[3] https://www.deq.nc.gov/waste-management-work-emerging-compounds#PFASSolidWasteLandfillData-17218

2. **Stand alone Wastewater systems**

In addition, many communities and neighborhoods, particularly in rural and unincorporated areas, have independent waste water systems. There are many consumer sources of PFAS, including stain- and water-resistant fabrics, carpets, and personal products like dental floss. As a result, there can be high concentrations of PFAS in the effluent from these independent systems. Although these packaged treatment plants generally have volume flows of 250,000 gal/day[4] and may seem to be small sources, the cumulative impact of these packaged treatment plants in a watershed can result in ground and surface waters and should be included in this proposal. For example, in North Chatham county, there are many compact communities and more are being built over time, each with their own separate treatment system and spray irrigation using the effluent and discharging into local creeks and streams. This ultimately discharges to the Haw River and Jordan Lake, where the cumulative impact from these systems can contribute to high concentrations of PFAS in both ground and surface water. EPN encourages the Commission to include these additional sources of PFAS contamination to the proposed rule.

Lack of clear discharge concentration requirements

EPN is very concerned that the proposed rule does not provide clear discharge concentrations for applicable sources. The proposal does not include a reference to either EPA's or the state's own PFAS concentration standards. Specifically, on April 10, 2024, EPA announced the final drinking water standards or Maximum Contaminant Levels (MCLs) to limit six PFAS compounds in drinking water.

- PFOA 4.0ppt
- PFOS 4.0ppt
- GenX chemicals 10 ppt
- Perfluorooctanoic acid (PFNA) 10ppt
- Perfluorohexanesulfonic acid (PFHxS) 10ppt
- The rule also regulates mixtures of GenX chemicals, PFNA, PFHxS and Perfluorobutanesulfonic acid (PFBS) through the use of a Hazard Index calculation to determine if the combined levels of these PFAS pose a potential risk to human health.

On November 1, 2025, North Carolina 2L standards for PFAS went into effect for three PFAS compounds: PFOA, PFOS, and GenX chemicals.

- PFOA 0.001 parts per trillions
- PFOS 0.7 parts per trillion
- GenX 10 parts per trillion

[4] https://www.epa.gov/sites/default/files/2015-06/documents/package_plant.pdf

Public water systems have five years to meet the new MCLs.

Although EPA recently proposed to rescind its regulatory determination for some of the PFAS compounds, it is doing so to "correct the unlawful procedure under which regulations for these PFAS were promulgated. EPA's proposal is solely based on a need to correct this unlawful process."[5] EPA is not questioning the science that led to the original determination, thus EPN believes these compounds should still be included in the North Carolina proposal.

As proposed, it is unclear what the enforceable requirements are for the subject sources. It is also unclear how this proposal relates to the existing requirements. EPN suggests that these standards and consistent standards for other PFAS requirements be incorporated into this proposal.

Monitoring Concerns

1. Source Monitoring Flexibility - Composite Sampling

Monitoring Requirements specifically in this proposal state - *(b) All PFOA, PFOS, and GenX monitoring outlined in this Rule shall be conducted as follows:*

> *(D) PFOA, PFOS, and GenX monitoring and reporting under this Subparagraph of this Rule shall be a representative grab sample,* ***unless the Director approves use of either a grab composite as specified in 40 CFR 403.12(g)(3)****, which is incorporated by reference including subsequent amendments and editions, or 24-hour to 72-hour composites collected by an automatic sampler cleaned and prepared to prevent PFOA, PFOS, and Gen X contamination.*

EPN appreciates that this proposal incorporates by reference existing and continuously updated EPA-approved monitoring methods. However, EPN is concerned that section (D) of this section allows the Director discretion to allow composite sampling. EPA seeks to eliminate Director's discretion from state-approved rules because it makes those rules difficult to enforce. In this proposal, the use of composite sampling can result in dilution of samples with high PFAS concentrations and other samples with lower PFAS concentrations, which may allow the source to inappropriately exempt the source from developing a mitigation plan.

In addition, Method 1633 discourages the use of composite sampling, so it is inappropriate to include composite sampling as an option in this proposal. Specifically, section 8.2.1 of Method 1633 states "Because some PFAS are known surfactants, the EPA strongly discourages composite sampling for Clean Water Act compliance monitoring. Therefore, samples from sources that flow freely (e.g., effluents or in-process waste streams) are collected as grab samples."[6]

[5] 91 FR 29414, available at https://www.epa.gov/sdwa/proposed-pfas-rescission-rule.

[6] https://www.epa.gov/system/files/documents/2024-12/method-1633a-december-5-2024-508-compliant.pdf, pg 14.

2. <u>Monitoring Reporting</u>

Section (c) states:

> *All PFOA, PFOS, and Gen X monitoring outlined in this Rule shall be submitted to the Director as follows: (1) PFOA, PFOS, and Gen X monitoring results reporting shall comply with the requirements in Rule 6 .0506 of this Section, except as noted in Paragraph (b) of this Rule. (2) PFOA, PFOS, and Gen X monitoring results for all PFOA, PFOS, and Gen X shall be reported for each sample.*
> *(3) The lowest reporting concentration shall be reported for each PFOA, PFOS, and Gen X.*

It is unclear the need for (3) reporting of the lowest concentrations for each sample when (2) states monitoring results for all PFOA, PFOS, and Gen X shall be reported for each sample. EPN believes knowing the highest concentrations would also be appropriate to determine the full scale of the source's discharge of all PFAS.

3. <u>Rule Applicability for baseline monitoring</u>

Section (d) states:

> *(d) PFOA, PFOS, and Gen X baseline characterization monitoring shall be required as follows:*
> *(1) Within 60 days of the effective date of this Rule,* ***the Director shall notify all IDDs-IP and all POTWs-LPP that either:***
> *(A) PFOA, PFOS, and Gen X baseline characterization monitoring shall be required as described in Subparagraph (d)(2) of this Rule, or (B) Representative historical PFOA, PFOS, and Gen X sampling as described in Subparagraph (d)(3) of this Rule shall be used to satisfy the requirement for PFOA, PFOS, and Gen X baseline characterization monitoring outlined in Subparagraph (d)(2) of this Rule.*
> ***The Director shall also notify any new applicants*** *for an individual NPDES Industrial Direct Discharger permit or a POTW seeking approval of new pretreatment program under Section .0900 of Subchapter 02H that PFOA, PFOS, and Gen X baseline characterization monitoring shall be required as described in Subparagraph (d)(2) of this Rule.*

EPN is concerned that the trigger for applicability of the rule is a notification by the Director. This shifts the responsibility of applicability determination from the source to the Director, leaving any source that may not be notified by the Director, exempt from the requirements. It is not unheard of for sources to build and begin operation without permits or approval by regulatory authorities. If this should occur the source can not be held accountable for not complying with the rules. EPN suggests the sources be responsible for complying with the requirements without notification by the Director. If there needs to be a determination if the source is conducting their baseline characterization under either section (A) or (B), the source should make that determination and have it approved by the Director.

4. <u>Concerns with ongoing monitoring</u>

Section (e)(1) states:

> *(e) PFOA, PFOS, and Gen X ongoing monitoring shall be required as follows: (1) The Director shall require PFOA, PFOS, and Gen X ongoing monitoring as described in Subparagraph (e)(2) of this Rule for any IDD-IP or [Publicly Owned Treatment Works] POTW-LPP that reports a concentration above the lowest reporting concentration (meaning, not a non-detect) of any of the PFOA, PFOS, and Gen X in any of the quarterly effluent station samples collected under Paragraph (d) of this Rule.*
>
> > *(A) For each IDD-IP and POTW-LPP* ***notified under Part*** *(d)(1)(A) of this Rule, within 120 calendar days of receiving all of the PFOA, PFOS, and Gen X baseline characterization monitoring data as required in Paragraph (d) of this Rule, the Director shall notify each IDD-IP and each POTW-LPP whether PFOA, PFOS, and Gen X ongoing monitoring will be required or not.*
> >
> > *(B) For each IDD-IP and POTW-LPP notified under Part (d)(1)(B) of this Rule, when the Director notifies each IDD-IP and each POTW-LPP in accordance with Part (d)(1)(B) of this Rule, the* ***Director shall also notify each*** *IDD-IP and each POTW-LPP whether PFOA, PFOS, and Gen X ongoing monitoring will be required or not.*

EPN is concerned that the responsibility for the need for ongoing monitoring shifts from the source to the Director. If the proposed rule required specific effluent discharge concentrations, then applicability would be determined by the sample concentrations (PFAS concentrations) and not a determination by the Director.

EPN is concerned about the adequacy of the ongoing monitoring requirements. EPN believes that ongoing monitoring should be required for all sources. For example, the monitoring requirement drops from quarterly measures to semi-annual measures. This allows significant flexibility for sources risks overlooking periods of high concentration that may negatively affect downstream water quality. EPN suggests maintaining the quarterly monitoring requirements is important due to the high risks from PFAS exposure.

In addition, the current proposal allows for sources to discontinue monitoring. The current proposal states:

> *Ongoing PFOA, PFOS, and Gen X monitoring required in Subparagraphs (e)(1) and (2) of this Rule shall continue at each station* ***until*** *the concentration for all PFOA, PFOS, and Gen X are below the lowest reporting concentration (meaning, reported as non-detects) in four consecutive effluent samples for that effluent station. If more than one sample is collected within a semiannual period, then the highest concentration for each PFOA, PFOS, and Gen X for that semiannual period shall be used to determine whether ongoing PFOA, PFOS, and Gen X monitoring shall be performed.*

As proposed, this would allow sources to stop monitoring once this requirement is met. EPN believes ongoing monitoring should be required to show continuous compliance with the requirements.

Minimization Plan Concerns

Section (f) on the minimization plans in this proposal, again, shifts the applicability determination to the Director instead of the source. It requires a notification by the Director to Significant Industrial User (SIU) before the source is required to develop and implement a plan. In addition, as currently written this rule would only apply to SIU that discharge to a POTW. EPN suggests that the proposal apply to all SIU whether or not they discharge to a treatment plant and that the rule should impose minimum concentration levels for all industrial sources.

EPN is concerned the current proposal requires baseline monitoring to determine if a minimization plan is needed. This is determined by the Director based on if the PFAS concentrations of the effluent are at or below the level of the intake concentrations. EPN suggests that the proposal incorporates minimum concentration levels the source could determine on their own compliance status. As written, it is unclear if the minimization plan applies to the POTW or SIU that discharges to it. EPN suggests that all sources be required to conduct a minimization plan to meet discharge concentration levels.

Further, EPN is concerned that the length of time allowed between promulgation of the rule to implementation of the minimization plan. Once the Director is notified, the source has 365 days to develop a mitigation plan that includes an implementation schedule. The Control Authority has 120 days for approval, or if there are deficiencies the source has 60 days to address the deficiencies followed by an additional 120 to begin implementation (which by itself could be a schedule for implementation). The result is a minimum of 605 days (or just under two years), on top of the year of baseline monitoring before PFAS reductions under the minimization plan begin.

If, however, the rule required each source to achieve specific discharge concentration level, then the need for the one year of baseline monitoring would not be required. In addition, EPN suggests all sources develop draft permits with enforceable requirements, including appropriate monitoring, recordkeeping, and reporting requirements, so that the timeline for full implementation can be shortened significantly.

Concerns about lack of provisions for enforceability and ongoing compliance

As currently written, this proposal does not hold sources accountable for any reduction in discharge of PFAS. EPN is concerned about the following deficiencies in the proposal:

- There are no requirements on the source other than the initial monitoring and reporting, which have the weaknesses discussed above. The proposal lacks source specific discharge concentration limits and the appropriate monitoring record keeping and reporting requirements needed to ensure compliance.
- There is no discussion of penalties or consequences for not implementing the minimization plans.
- Monitoring is limited. There are provisions to stop monitoring overtime, which does not provide for continuous compliance.
- The Director's discretion to allow exemptions, composite monitoring makes accountability and enforcement difficult at best and in the worst case can exempt sources from complying with the rule.

While EPN does agree that reducing PFAS concentrations is a significant issue for North Carolina. EPN does not believe this proposal will accomplish that goal. EPN values the opportunity to comment on the proposal and hope that the Commission will repropose a rule that provides for source accountability and true reduction in discharge of PFAS to the environment.