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EPN Comments on the North Carolina Environmental Management Commission's 1,4-Dioxane Minimization and Monitoring Proposed Rules

Proposed Rules 15A NCAC 02B .0513 and 15A NCAC 02H .0924

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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 1,4-dioxane Monitoring and Minimization Rules 115A NCAC 02B .0513 and 15A NCAC 02H .0924. EPN agrees with the Commission that 1,4-dioxane poses a significant concern for public health and the environment in North Carolina and across the world. These risks include liver and kidney damage and increased cancer in humans. EPN agrees that regulations and reduction of 1,4-dioxane 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 in emission sources covered by the rule

Although the proposal correctly identifies industrial dischargers, indirect industrial discharges and publicly owned treatment works (POTWs) should be included in applicability of the rule. The Commission's own regulatory impact analysis (RIA) states "This chemical can also be found in lesser amounts as a byproduct in consumer products such as laundry detergents, personal care products, and cosmetics."[1] Thus EPN suggests that the rule also applied to stand alone, package treatment plants. There are many communities and neighborhoods, particularly in rural and unincorporated areas, which have independent waste water systems. As noted, there are many consumer sources of 1,4-dioxane which could result in high concentrations of 1,4-dioxane in the effluent from these

[1] https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=4332370&dbid=0&repo=WaterResources

independent systems. Although these package treatment plants generally have volume flows of 250,000 gal/day,[2] and may seem to be small sources, the cumulative impact of these package treatment plants in a watershed can result in increased concentrations 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 treatment system and spray irrigation using the effluent and discharging into local creeks and streams, which ultimately discharge to the Haw River and Jordan Lake. The cumulative impact from these systems can contribute to high concentrations of 1,4-dioxane in both ground and surface water. EPN encourages the Commission to include these additional sources in 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. As proposed, it is unclear what the enforceable requirements are for the sources and how this proposal relates to the existing requirements. EPN suggests that these specific discharge concentrations be incorporated into this proposal.

Monitoring Concerns

1. **Source Monitoring Flexibility - Composite Sampling**

Monitoring Requirements specifically included in this proposal state "this Rule shall be conducted as follows:

> (4) 1,4-dioxane monitoring 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 1,4-dioxane contamination."

EPN appreciates that this proposal incorporates by reference the existing and continuously updated EPA approved monitoring methods. However, EPN is concerned that section (B)(4) of this section allows the Commission's Director ("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 1,4-dioxane with other samples with lower 1,4-dioxane, allowing the source to be inappropriately exempt from developing a mitigation plan.

2. **Rule Applicability for baseline monitoring**

The proposal states:

> *"(d) 1,4-dioxane 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*

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

POTWs-LPP that either:

(A) 1,4-dioxane baseline characterization monitoring shall be required as described in Subparagraph (d)(2) of this Rule, or

(B) Statistically representative historical 1,4-dioxane sampling as described in Subparagraph (d)(3) of this Rule shall be used to satisfy the requirement for 1,4-dioxane baseline characterization monitoring outlined in Subparagraph (d)(2) of this Rule.

The Director shall also notify any new applicants for an individual [National Pollutant Discharge Elimination System] NPDES Industrial Direct Discharger permit or a POTW seeking approval of new pretreatment program under Section .09003 8 of 10 of Subchapter 02H that 1,4-dioxane 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.

3. Concerns with ongoing monitoring

EPN is concerned that the responsibility for determining the need for ongoing monitoring is triggered by a determination from the Director. EPN believes that if the proposed rule required specific effluent discharge concentrations, then applicability would be determined by the sample concentrations and it would be clear based on the 1,4-dioxane concentrations, 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 the sources and may miss high concentration events that can impact water down stream. EPN suggests maintaining the quarterly monitoring requirements due to the high risks from 1,4-dioxane exposure.

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

(3) Ongoing 1,4-dioxane monitoring required in Subparagraphs (e)(1) and (e)(2) of this Rule shall continue until at each effluent station until [sic] *the concentration for 1,4-dioxane is 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 per semiannual period at an effluent station, then the highest concentration of 1,4-dioxane for that semiannual period shall be used to determine whether ongoing 1,4-dioxane monitoring shall be performed at that effluent station.

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

In the current proposal, the requirement to develop a minimization plan 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 1,4-dioxane concentrations of the effluent are at or below the level of the intake concentrations. EPN suggests that the proposal incorporates minimum concentration levels, consequently 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 monitoring to determine minimization requirements to meet discharge concentration levels.

Further, EPN is concerned with the length of time allowed between promulgation of the rule to implementation of the minimization plan. Once notified, the Director of the source has 365 days to develop a mitigation plan that includes an implementation schedule. The Control Authority has 120 days for approval, if there are deficiencies the source has 60 days to address the deficiencies, followed by an additional 120 days 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 1,4-dioxane reductions under the minimization plan begin.

If, however, the rule required each source to achieve a required concentration level to meet a specified discharge concentration, then the need for the one year of baseline monitoring would not be necessary. In addition, EPN suggests all sources develop draft permits with enforceable requirements, including appropriate monitoring, recordkeeping, and reporting requirements, allowing the timeline for full implementation to 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 1,4-dioxane. 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 1,4-dioxane 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 hopes that the Commission will repropose a rule that provides for source accountability and true reduction in discharge of 1,4-dioxane to the environment.