



3182

NATIONAL COUNCIL FOR AIR AND STREAM IMPROVEMENT, INC.
1513 Walnut Street, Suite 200, Cary, NC 27511
Phone (919) 941-6417 Fax (919) 941-6401

RECEIVED
IRRC

2018 FEB 15 P 2:38

Paul Wiegand
Vice President, Water Resources &
Director, Northern and Western Regions
pwiegand@ncasi.org

(Submitted via www.ahs.dep.pa.gov/eComment)

February 15, 2018

Mr. Thomas Barron
Environmental Group Manager and Chief, Standards Section
Pennsylvania Department of Environmental Protection
Water Quality Standards Division
Rachel Carson State Office Building
P.O. Box 2063
Harrisburg, Pennsylvania 17105-2063

Re: Proposed Regulation 25 PA. Code Ch. 93 Triennial Review of Water Quality Standards

Dear Mr. Barron:

This letter and referenced documents are submitted in response to the Department's proposed updates of water quality criteria that are being considered as part of the triennial review process. Specifically, comments are offered regarding the Department's consideration of revised criteria for protection of human health, including those for carcinogens, non-carcinogens, and bacteria. NCASI conducts research and technical studies on behalf of forest products companies across the US, and its members represent nearly 90% of pulp and paper and two-thirds of wood panels produced nationwide. Most forest products facilities operating in Pennsylvania are NCASI members. NCASI has been an active participant at the state and federal levels in technical and scientific aspects of water quality criteria development for many decades and appreciates this opportunity to offer technical information that can improve the scientific foundation of water quality management decisions made in Pennsylvania.

These comments relate specifically to potential changes in Human Health-based Water Quality Criteria (HHWQC) and Recreational Water Quality Criteria (RWQC) for bacteria. As regards HHWQC, NCASI has collaborated with Arcadis to compile a significant amount of technical information regarding the 2015 criteria update prepared by EPA. This information is relevant because EPA's 2015 criteria recommendations form the basis of PDEP's proposed HHWQC criteria. The technical information is contained within the report titled *Derivation of human health ambient water quality criteria: review of key scientific and technical assumptions and approaches*, which is being submitted with these comments. In reviewing the report, you will note that it identifies numerous concerns regarding the many changes in both policy and science that EPA employed in deriving updated criteria in 2015. These changes represent a significant

departure from past EPA practices for deriving HHWQC, and PDEP may wish to review these in light of both their scientific veracity and their appropriateness for the waters of Pennsylvania. NCASI hopes that the Department will give due consideration to this material as it moves forward with the triennial review process, and we would be pleased to meet with you to more thoroughly review the matters of science detailed in the report.

NCASI would also like to offer comment regarding the proposed bacterial standards for recreational waters. If PDEP adopts EPA's RWQC for *Escherichia coli* (*E. coli*) in fresh water, some industrial sectors may not be able to meet the criteria due to the presence of bacteria originating from natural environmental sources. This concern has become more widely known in recent years as states and the regulated community have engaged in more robust testing of ambient waters and effluents using new bacterial assays. NCASI has published two recent reports on this topic (NCASI 2016, 2017).

Some states have addressed this matter by incorporating provisions in their standards so a discharger can provide scientifically defensible data demonstrating that the sources responsible for elevated levels of these indicator bacteria are not associated with connections to sanitary sources. For example, Oregon's Department of Environmental Quality (ODEQ) recently issued its RWQC, and an accompanying issue paper (Borok 2016) discusses its position regarding industrial discharges with non-fecal sources. The paper contains the following passage:

This change acknowledges that certain non-fecal containing discharges, such as pulp and paper effluent, may contain bacteria that are detected as *E. coli* or enterococcus, but are not pathogenic and do not indicate the presence of fecal contamination. (Gauthier and Archibald 2001; Degnan 2007; Croteau, et al. 2007). Due to the potential interference of plant-based bacteria in enterococcus tests, it may be difficult for pulp and paper mills to achieve compliance with enterococcus criteria even if the discharge poses little risk to public health due to the lack of pathogenic bacteria in the discharge. The proposed provision will allow flexibility to entities that can demonstrate to DEQ that their discharge does not come from fecal sources. DEQ would require such entities to demonstrate through biochemical species identification techniques that the effluent contains non-fecal based bacteria species. Once the demonstration is made, DEQ would include appropriate effluent limits in the permit to ensure that public health is protected.

In a similar action, the Florida Department of Environmental Protection included a memorandum as part of the record in its revision of RWQC that recognizes this same concern and affords dischargers the opportunity to demonstrate that bacterial assay results are not indicative of the presence of bacteria linked to sanitary wastewater (FDEP 2015).

For these reasons, PDEP may wish to consider acknowledging the potential for false positive bacteria results as part of the triennial review record and provide some guidance regarding approaches that might be taken to avoid unwarranted effluent limits.

NCASI appreciates the opportunity to provide scientific input on proposals made as part of the PDEP Triennial Review process.

Respectfully submitted,



Paul Wiegand
Vice President, Water Resources & Director, Northern and Western Regions
NCASI

Attachments

- Arcadis and National Council for Air and Stream Improvement, Inc. (NCASI). 2017. *Derivation of human health ambient water quality criteria: review of key scientific and technical assumptions and approaches.*
- Florida Department of Environmental Protection (FDEP). 2015. *Permitting Considerations for Industrial Operations with Onsite Sanitary Wastewater Disposal.*

References (available on request)

- Borok, A. 2016. *Issue Paper: Revisions to the Water Quality Standard for Bacteria.* State of Oregon Department of Environmental Quality, Portland, OR, February 2016.
<http://www.oregon.gov/deq/FilterDocs/BacteriaIssuePaper.pdf.pdf>.
- National Council for Air and Stream Improvement, Inc. (NCASI). 2016. *Implications of USEPA's 2012 recreational water quality criteria to the pulp and paper industry, with mill case studies characterizing indicator bacteria in effluents.* Technical Bulletin No. 1041. Cary, NC: National Council for Air and Stream Improvement, Inc.
- National Council for Air and Stream Improvement, Inc. (NCASI). 2017. *Evaluation of Escherichia coli (E. coli) measurement methods when applied to woodyard runoff.* Technical Bulletin No. 1044. Cary, NC: National Council for Air and Stream Improvement, Inc.

Permitting Considerations for Industrial Operations with Onsite Sanitary Wastewater Disposal

Large industrial operations may generate domestic (sanitary) wastewater in addition to industrial wastewater. In such situations, the sanitary and industrial wastewaters may be treated and disposed separately or together, either onsite or offsite.

Wastewater permits issued and renewed by DEP are based on the statutes and rules in effect at the time of permit issuance or renewal (Rule 62-620.620(1), F.A.C.). The permit applicant needs to provide reasonable assurance that discharge from the facility to waters of the state will meet applicable water quality standards. Effluent limitations are established, as needed, for parameters that have the potential to cause or contribute to exceedances of water quality standards in receiving waters (Rules 62-620.620(1) and 62-650.300(1), F.A.C.)

Separate Treatment and Disposal of Sanitary and Industrial Wastewater

In some situations, industrial and sanitary wastewater are treated and disposed separately. For example, industrial wastewater may be discharged under an NPDES permit, while sanitary wastewater from the same facility is piped to a domestic treatment facility offsite, or treated either onsite or offsite and disposed in accordance with applicable domestic wastewater regulations. In this example, the industrial facility should not have the potential to cause or contribute to exceedances by pollutants that are exclusively associated with sanitary wastewater (indicators of human pathogens, for example). Therefore, the industrial wastewater NPDES permit would not include effluent limitations for sanitary wastewater parameters, because the NPDES permit would not authorize a discharge of domestic wastewater to the waters of the State.

Combined Disposal of Sanitary and Industrial Wastewater

In other industrial operations, sanitary wastewater is treated and discharged along with the industrial wastewater. In cases where the sanitary wastewater is treated and disinfected before it is mixed with the main industrial wastewater stream, the sanitary wastewater can be monitored before mixing to ensure compliance with applicable disinfection requirements in Subsections 62-600.440(3)-(6), F.A.C. This scenario would include cases where the sanitary wastewater is disinfected using typical measures for domestic wastewater (e.g. chlorination) and cases where disinfection is provided by mixing with a substream of the industrial wastewater capable of sufficient disinfection. In either case, effluent monitoring and limits may be established at internal outfalls prior to being combined with the main industrial wastewater stream, consistent with Subsection 62-620.320(1), F.A.C. This offers the advantage that smaller internal waste streams may be treated more economically, and often monitored more easily, than larger direct discharges.

At a few large industrial operations, the sanitary and industrial wastewater may be commingled within the facility in a configuration that makes separate treatment and disinfection infeasible. For example, sanitary wastewater from individual manufacturing and office buildings may be routed to onsite industrial process wastewater sewers. In such situations, a permittee would need to provide reasonable assurance that treatment of the combined wastewater is capable of sufficient disinfection to meet applicable sanitary wastewater requirements. Demonstration of reasonable assurance would be site-specific based on the unique configuration of treatment processes at the facility, and the NPDES permit may include effluent limitations for both industrial and sanitary parameters in the combined discharge. Demonstrations could include monitoring for E. Coli at internal locations that meet the freshwater definition, or a combination of other methods to characterize identified bacteria sources as predominantly of non-human origin.