



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8960

SEP 20 2004

Alan W. Klimek, P.E. Director
Division of Water Quality
North Carolina Department of Environment and Natural Resources
1617 Mail Service Center
Raleigh, NC 27699-1617

Re: EPA/State Mutual Agreement on Numeric Nutrient Criteria Development Plan
for North Carolina

Dear Mr. Klimek:

This letter documents mutual agreement between the North Carolina Department of Environment and Natural Resources (NCDENR) and the United States Environmental Protection Agency (EPA) in regard to the State's voluntary numeric nutrient criteria development plan, entitled North Carolina Nutrient Criteria Implementation Plan (Plan), submitted to EPA in final version for review on June 1, 2004.

Nutrient over-enrichment of the nation's waters is a serious problem, but determination of appropriate levels for protection is very complex, and implementation of that protection will be challenging. EPA recognizes that this Plan represents considerable effort undertaken by the State to address this issue. We especially appreciate the close cooperation of your staff with EPA-Region 4 in development of the State's Plan, and your continued support of their participation in our Regional Technical Advisory Group (RTAG). The achievement of mutual agreement on your Plan reflects the success of that process.

EPA's review of your Plan was coordinated between Region 4 and the National Nutrient Team at EPA Headquarters. The Region 4 review included both the Regional Nutrient Coordinators and the Water Quality Standards State Coordinator assigned to your state. Based upon our review, we believe this Plan describes a reasonable process by which the State can develop appropriate protective numeric nutrient criteria for adoption into State water quality standards; and that completion of this process by the target dates indicated in the Plan should provide increased protection of state waters from the effects of nutrient over-enrichment. For your consideration, we have enclosed some comments from our review that might be useful in the further refinement and implementation of your Plan.

At the end of December, 2004 (and annually thereafter), EPA will use the Plan to evaluate the State's progress and determine whether or not the State is likely to complete numeric nutrient criteria development and adoption within the agreed upon time frames. If the State has not met the milestones as scheduled in the plan, EPA will evaluate whether a federal promulgation would be appropriate. At that time, the Administrator may determine that new or revised standards are

necessary to meet the requirements of the Clean Water Act (CWA), and choose to promulgate water quality criteria for nutrients applicable to surface waters within North Carolina in accordance with Section 303 of the CWA. However, the Nutrient Criteria Development Plan submitted by NCDENR and agreed to here makes this possibility unlikely. EPA will make every effort to assist the State in developing nutrient criteria in a manner consistent with your Plan. We expect the continued cooperation and communication between the State and EPA to lead to scientifically defensible and protective nutrient criteria for the State's waters.

By this agreement, EPA is acknowledging that this plan reflects a reasonable course of action by which the State can proceed to develop numeric nutrient criteria; but this agreement does not, nor should it in anyway be interpreted to constitute an approval, or conditional approval of State water quality standards. EPA's agreement at this time does not reflect an in-depth review or a judgement that the resulting criteria will, or will not be protective, or otherwise consistent with the CWA.

According to the time-line projected in your Plan, we will expect you to submit numeric water quality standards for nutrients for associated waterbody types to EPA for approval during the respective Triennial Review. In the interim, we request that the State provide updates to EPA to document progress according to the Plan through the established State mid-year/end-of-year review process. In the event that the Plan needs to be revised, changes can be made with mutual agreement, and EPA will update this letter to document our agreement with the revisions.

We applaud the State for making such a significant commitment of time and resources toward completion of this endeavor. We are very pleased with the quality of your Plan, and appreciate your efforts to prepare and submit it in a timely manner. We look forward to future collaboration and NCDENR's productive contributions to the Region 4 nutrient criteria development effort.

If you have any questions now, or in the future, regarding this matter, please feel free to contact the North Carolina Water Quality Standards Coordinator on my staff, Lisa Perras Gordon at 404-562-9317; or one of the Region 4 Nutrient Coordinators, either Ed Decker at 404-562-9383, or Jim Harrison, at 404-562-9271.

Sincerely yours,



James D. Giattina
Director, Water Management Division

Enclosure

cc: Boyd DeVane, NCDWQ
Connie Brower, NCDWQ
Lisa Perras Gordon, EPA

**Review of North Carolina's Nutrient Plan for Mutual Agreement
Environmental Protection Agency Comments
September 2004**

By letter dated, June 1, 2004, North Carolina Division of Water Quality (DWQ) provided a revised Nutrient Criteria Implementation Plan (Plan) for mutual agreement with the U.S. Environmental Protection Agency (EPA). North Carolina's Plan consists of the existing Nutrient Criteria Management Strategy (Attachment 1) and a proposed approach for "Phase 2" Nutrient Control Strategy. EPA's review incorporates both portions of the strategy and views them in their entirety working together to create an overall nutrient management strategy for the State. EPA provides the following comments and thoughts which may be helpful in the further refinement of the Plan and development of nutrient water quality standards.

General Comments

- North Carolina's existing Nutrient Criteria Management Strategy, which has been in place since the mid-90s, includes many of the provisions of a successful approach to nutrient control. Through this plan the State has implemented a state-wide program to monitor for nutrient "response variables" including chlorophyll *a*, dissolved oxygen and pH, in order to assess the State's waters for nutrient enrichment. The State has made substantial progress in evaluating and responding to significantly enriched water bodies and is to be commended for the actions taken to date, including the innovative use of the "Nutrient Sensitive Water" supplemental classification.
- The existing plan includes site-specific measures for responding to elevated response variables, including the use of legislatively mandated limits on the discharge of nitrogen and phosphorus into waters designated as "Nutrient Sensitive Waters." This mandated response links causal and response variables in a flexible and site-specific manner.
- "Phase 2" of the Plan provides the needed compliment to further enhance the State's response to nutrient overload. "Phase 2" includes the innovative process of identifying a threshold at which a water body is identified as nutrient enriched but not impaired. This innovative threshold determination will provide a way to evaluate State waters for potential enrichment due to nutrients and allow the State to react in a proactive manner to prevent the waters from becoming impaired.
- EPA acknowledges North Carolina's determination to not use water clarity as a response indicator at this time. EPA supports North Carolina's intention to further 'research and evaluate' this parameter and to include it as part of the Plan should a definable relationship between clarity and causal parameters be demonstrated.
- The State's "Phase 2" Nutrient Control Strategy includes the intention to develop new ambient criteria for chlorophyll *a*. The plan states that a scientific review may lead to outcomes including a growing season average, instantaneous maximums and frequency and distribution response criteria. EPA supports North Carolina's reevaluation and

encourages the State to include specific reference to frequency, duration and magnitude in the new criteria.

- EPA commends the State on its intention to utilize periphyton assessment in streams. We appreciate the difficulty of characterizing response to nutrients in flowing waters, and support the State's efforts to evaluate various parameters for quantification in periphyton assessment.
- The Plan indicates that the intention of developing the lower nutrient response level is to pro-actively take action once a water body has become "enriched" and work to prevent it from exceeding the numeric criterion and becoming impaired. EPA is concerned that the time frames under which the initial response is taken may be lengthy and may not be effective for preventing further degradation of the water body. North Carolina states that it will review available nutrient response criteria ambient data for a five-year window. Once a determination is made on that data that the water body is enriched, the State will, 1) request optimization of TN and TP removal studies for all major permittees, and 2) the Division will develop and implement a comprehensive, site-specific nutrient management strategy for all enriched waters. The State is encouraged to evaluate the length of time that it is anticipated that these actions may take. For example, is it reasonable to assume that after reviewing 5 years worth of data, it may take another 2 years to do optimization studies, more time for the full water body study and another year to implement the results?
- On page 8 of the plan, the state is still using the terms "impairment tier", which should be changed to "category".

Cross Program Coordination

Development and implementation of North Carolina's Nutrient Plan is structured such that there is a strong cross-program involvement with both the State's monitoring and National Pollutant Discharge Elimination System (NPDES) permitting program. The use of a single response variable places the burden for determining nutrient enrichment on the State's monitoring program. Once it is determined that a water body is enriched it will be the responsibility of the North Carolina permitting staff to contact dischargers and require that optimization studies be conducted. As the State moves forward with implementation of the Plan, we think it will be particularly important for North Carolina to work with related programs, and consequently EPA recommends the State integrate required actions into the guiding documents of those programs, such as the North Carolina Monitoring Strategy. The following comments primarily address recommendations for NPDES permitting and monitoring as it relates to the implementation of the Plan.

- In the section discussing the Nutrient Translator, the Plan states that North Carolina Department of Water Quality will require "optimization of TN and TP removal for major

dischargers to...water bodies identified as nutrient enriched.” This is an initial response to nutrient enriched waters to be enacted while a comprehensive nutrient management strategy is developed. EPA recommends further defining how this will be accomplished. The State confirmed that this refers to major NPDES permittees and provided language that will be used to "require" major discharges to conduct the optimization study. North Carolina should include clear reference to the authority by which it will compel the facilities to comply, such as using the "reopener clause" of existing permits or a reasonable potential evaluation for new and renewing permits.

- Once newly optimized levels of N and P are determined for NPDES facilities, EPA recommends that the State clearly delineate how these will be implemented and under which state authority they are implemented. (The Plan states that the studies will be done, but there are no details regarding what happens after the study.) If they are to be placed into the permit as enforceable limits, we recommend the State define at what point this will be accomplished. For example, will they only be enacted once the permit comes up for renewal, or is there another vehicle by which these are implemented, such as a compliance schedule.
- North Carolina's June 1, 2004, letter states that, "(a)t this time, North Carolina would not require minor facilities to perform this study due to their minimal impact, individually, on the receiving water." EPA recommends that the data and information reviewed which led to that conclusion be more fully expanded. While it may be argued that individually each minor NPDES permittee may not have significant impact, they may have a significant cumulative impact when considered across an entire watershed and should not be eliminated from consideration. EPA encourages North Carolina to include minor facilities in this process.
- North Carolina should evaluate what, if any, increase of resources will be needed under the State's monitoring program to assess the State's waters for the response indicators. The State should ensure coordination between the Water Quality Standards and Monitoring programs so that the new guidelines and criteria are incorporated into the State's monitoring and Section 303(d) programs.