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William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources

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Division of Water Quality

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June 1, 2004

Mr. Andrew Bartlett, Chief  
East Standards, Monitoring and TMDL Section  
USEPA Region 4  
61 Forsyth Street, S.W.  
Atlanta, GA 30303-8960

Dear Mr. Bartlett:

Thank you for your thoughtful comments regarding the proposed North Carolina Division of Water Quality Nutrient Criteria Implementation Plan dated March 10, 2004. Following a thorough review, we would like to provide the following responses, which correspond to the numbered suggestions contained in your original correspondence:

1. **Comment:** EPA supports North Carolina's reevaluation of the existing chlorophyll a criteria.

**Response:** No response required. North Carolina intends to include a comprehensive review of the chlorophyll a criteria and its implementation as part of the North Carolina Nutrient Criteria Implementation Plan.

2. **Comment:** Define the terms TN and TP optimization levels.

**Response:** The optimization of TN and TP for major discharges would be triggered when the chlorophyll a or periphyton "nutrient enrichment" threshold level is exceeded in a water body. At this time, for major dischargers only, the state would require an optimization study of the reduction of TN/TP at the treatment plant. The study would be required to be completed within a certain time frame. Based on the optimization study and further analyses of the watershed, further action could be required of the permittee.

North Carolina has required optimization studies from major permittees in the past. An example of a study, the Town of Valdese: NC00 41696, can be forwarded to EPA upon request. The permittee would be required to provide the resources necessary to accomplish this – time will be allowed to both budget for the study and collect any data necessary for the study. Division staff will review the study and the proposed levels of effluent TN and TP that are predicted once the optimization efforts are implemented.

An example of the language that would be required for the major discharge is as follows:

Due to the potential impacts of nutrients in the receiving water body, the permittee is required to perform a TN and TP optimization study. The optimization study should identify the sources of TN and TP loads and evaluate how to reduce and minimize these inputs to the wastewater treatment plant. Additionally, the facility should review operational and treatment techniques to determine if TN and TP removal is being maximized.

At this time, North Carolina would not require minor facilities to perform this study due to their minimal impact, individually, on the receiving water.

3. **Comment:** The State is encouraged to continue to monitor clarity and evaluate whether or not a relationship can be determined between clarity and causal parameters and nutrient enrichment in waters.



**Response:** North Carolina will maintain monitoring efforts for water clarity and continue to evaluate the potential relationship to causal parameters and nutrient enrichment in waters. If evidence appears that a quantifiable relationship can be established, the State will consider revising its Nutrient Criteria Implementation Plan.

4. **Comment:** Revise the use of the words "tier" and "criteria" throughout the proposed plan.

**Response:** The use of the term "tier", when referring to the level of criteria development has been eliminated and replaced with the term "category." We agree that this will eliminate potential confusion with accepted EPA use of "tiered" waters.

The use of the term "criteria," when referring to nutrient enriched, but not impaired, waters has been replaced with the term "nutrient enriched category."

These modifications have already been incorporated into the attached, revised Nutrient Criteria Implementation Plan.

5. **Comment:** Discuss the relationship between the nutrient enrichment and impairment levels and how they relate to antidegradation.

**Response:** The nutrient enrichment threshold level indicates that a water body is nutrient enriched, but not exceeding, the water quality standard. A "nutrient enriched" water body is still capable of supporting all designated uses and, therefore, would not be considered impaired, or "degraded." A water body that exceeds the impairment level of the nutrient criteria would be considered impaired, would not be supporting its designated uses, and would be subject to listing on the appropriate 303(d) list. We believe that this methodology fully complies with 15A NCAC 2B .0201, North Carolina's Antidegradation Policy.

6. **Comment:** Provide more details regarding the proposed phytoplankton monitoring effort.

**Response:** The North Carolina plan is still in the development stages. As noted throughout the document, detailed plans including additional data needs, will be developed and executed in accordance with the Timelines presented in the draft plan. A comprehensive monitoring strategy that will provide the data necessary to support the implementation of this plan will be developed as part of the plan execution. North Carolina will solicit EPA comment on this monitoring strategy during its development.

7. **Comment:** Please elaborate on the requirement for the optimization of TN and TP removal for major dischargers in nutrient enriched water.

**Response:** Please refer to our previous response to Comment #2.

8. **Comment:** Will the nutrient translator only apply to the lower nutrient enriched level with the total maximum daily load (TMDL) process taking over at the impaired level?

**Response:** This is correct. As currently envisioned, the nutrient translator will only apply to the lower "nutrient enriched" category. The Total Maximum Daily Load (TMDL) process is to be initiated at the "impaired tier" category designation.

9. **Comment:** Will there be a formal process for the designation of a water body as "nutrient enriched" such as exists now for the designation of Nutrient Sensitive Waters (NSW)?

**Response:** At this time North Carolina does not envision implementing an administrative rulemaking requirement for designating a water body as "nutrient enriched." The North Carolina Administrative Procedures Act (APA) rulemaking process is lengthy, complex, and extremely involved. We are of the opinion that mandating a rulemaking process in order to designate a water body as "nutrient enriched" would

significantly degrade the inherent flexibility that will be required to successfully implement and administer this program.

10. **Comment:** Will the State codify the House Bill 515 limits into the standards program as part of this process or in some way incorporate or reconcile House Bill 515 with the new standards that are proposed under this plan?

**Response:** The TN and TP limits specified in House Bill 515 are permit effluent limits and not water quality standards. These limits have not been formally incorporated into the existing North Carolina Water Quality Standards Program. As such, there is no plan at present to attempt to incorporate these permit limitations into the Nutrient Criteria Implementation Plan. As previously mentioned, the Division of Water Quality is determined to ensure that this program remains highly flexible and responsive. Incorporating the House Bill 515 limits into this program may hinder the ability of the Division to mandate the permit limits that may be necessary to respond to nutrient over enrichment and impairment. At this time, the Division would prefer that the House Bill 515 limits remain associated solely with the NSW designation.

11. **Comment:** How will this program provide for the protection of downstream uses, especially in situations involving interstate waters?

**Response:** The Division of Water Quality interprets 15A NCAC 02B .0203 to apply to the downstream uses of out of state waters. This rule will be used in conjunction with the nutrient criteria plan to protect downstream uses, including the designated uses of downstream states. In addition, the state's Basinwide Management Program will continue to review the causal and response variables utilized by our neighboring states to assure adequate protection of the neighboring waters and responsive departmental action.

We would again like to take this opportunity to commend the EPA Region 4 Staff for their work in assisting North Carolina with the development of this plan. The thoughtful suggestions and comments provided by the EPA Regional Staff throughout this entire process are sincerely appreciated and have been extremely beneficial in the development of this plan.

A revised North Carolina Nutrient Criteria Implementation Plan, which incorporates some of the suggestions presented herein, is enclosed. We thank you for your consideration of this revised document and are eager to achieve "mutual agreement" so that we may commence implementation. We hope that any further outstanding issues may be resolved in the most expeditious manner possible. Should you have any questions or concerns about this letter or the enclosure, please contact Tom Reeder at 919-733-5083, extension 557 or by e-mail at [tom.reeder@ncmail.net](mailto:tom.reeder@ncmail.net).

Sincerely,

  
for Alan W. Klimek, P.E.

AWK:tr

Enclosure

CC: Gail Mitchell, USEPA Region 4  
Ed Decker, USEPA Region 4  
Jim Harrison, USEPA Region 4

