UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
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JUN 18 2012

James Hogan, Acting Chief
Surface Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building (N2050)
P.O. Box 5469
Santa Fe, NM 87502-5469

Dear Mr. Hogan:

I am writing in reference to the Environmental Protection Agency's (EPA or the Agency) April 30, 2012 action on amendments to the ***Standards for Interstate and Intrastate Surface Waters* 20.6.4. NMAC**. In that action, EPA approved the remaining new/revised amendments with the exception of aluminum criteria under specific conditions.

In that action, EPA approved the application of the hardness-dependent equation for aluminum to those waters of the State at a pH of 6.5 to 9.0 because it will yield criteria that are protective of applicable uses in waters within that pH range. However, EPA disapproved the application of this equation in waters where the pH is below 6.5 as it may not be protective of applicable uses below that pH range. In that action, we stated that consistent with EPA's regulations, the previously approved 304(a) criteria for aluminum are thus the applicable water quality standards for purposes of the CWA in waters where the pH is at or below 6.5. We also stated that in such cases, as the permitting authority in New Mexico, EPA will apply the previously approved 87 µg/L chronic criterion, but inadvertently referred to the total recoverable form of aluminum - the previously approved criterion is the dissolved fraction. As a result, we are amending our action to clarify that as the permitting authority, EPA will apply the previously approved 87 ug/L dissolved aluminum criterion in those waters where the pH is below 6.5 as described in the enclosed amended Record of Decision (ROD) addendum. This correction does not affect other new/revised standards approved in our previous action.

I appreciate the State's cooperative efforts in resolving this issue. If you need additional detail concerning this letter or the enclosed amended addendum to our original ROD, please call me at (214) 665-3187, or have your staff contact Russell Nelson at (214) 665-6646.

Sincerely,

William K. Honker, P.E.
Acting Director
Water Quality Protection Division

Enclosure

cc: Wally Murphy
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RECORD OF DECISION ADDENDUM

New Mexico's Standards For Interstate and Intrastate Surface Waters 20.6.4 NMAC

The purpose of this addendum is to explain the Environmental Protection Agency (EPA's or the Agency's) decision on those provisions of New Mexico's ***Standards for Interstate and Intrastate Surface Waters*** **20.6.4. NMAC** that EPA did not act on as part of its previous April 12, 2011 decision. EPA's decisions are based on a detailed review of supporting documentation for these provisions, discussions and correspondence with the State.

20.6.4.10 D. Site-specific Criteria

Federal regulations allow States the flexibility to modify EPA's 304(a) criteria to reflect site-specific conditions. Given this premise, EPA initially approved the majority of section **20.6.4.10(D) Site-specific Criteria** and took no action on subsection **20.6.4.10 (D)(1)(e)** because of specific concerns with that subsection of the provision. After additional analysis, EPA determined that section **20.6.4.10(D)** represents implementation procedures and does not constitute water quality standards that require the EPA's review or action under Section 303(c) of the Clean Water Act (CWA). Since the provisions in this section are not water quality standards, EPA has determined that it has no obligation to act on these provisions and as a result, rescinds that prior action. Section **20.6.4.10(D)** remains in effect for purposes of State law and may be used for the development of site-specific criteria; however, it is not a water quality standard that is effective for CWA purposes.

Although EPA is not approving the procedures in section **20.6.4.10 (D)** as water quality standards, we retain authority to act on site-specific criteria developed using these procedures. Given this authority, it is important that the State understand our concerns with subsection **20.6.4.10 (D)(1)(e)**. In a plain reading of this subsection, it is unclear what the reference to "...other factors or combinations of factors that...may warrant modifications of default criteria" means or how it will be applied or implemented. In an effort to determine the meaning and intent, EPA referred to the hearing record, the Commission's Statement of Reasons and the Hearing Officers Report. All referenced assurances from the New Mexico Environment Department (NMED) to 3rd-party petitioners that the Commission would consider "net ecological benefit" in establishing site-specific criteria. Given this, EPA believes it is important to reiterate the position outlined in comments provided to NMED that were included as Exhibit_89 in the State's hearing record and subsequent submission. As explained in those comments, the "net ecological benefit" concept is not supportable from an ecological perspective and is not consistent with federal regulations. As such, EPA is unlikely to approve site-specific criteria based on a net ecological benefit concept.

taken in the development of these recalculated criteria and conducted a detailed review to determine the appropriateness of applying these criteria statewide.

Based on our detailed review and correspondence with the State, EPA noted concerns with the selective exclusion and inclusion of specific studies that were used in the recalculation, including the use of non-native species. EPA learned that the recalculated criteria were derived by GEI as if they were an update to the national criteria. Although GEI generally followed methods outlined in EPA's criteria derivation and recalculation procedures (Stephan et al. 1985, USEPA 1994), since these updates are submitted by the State, EPA views them as State, not national criteria. As such, EPA recommends the use of indigenous species in the development of criteria intended to apply statewide.

Given that the implementation of metals criteria is complex due to the site-specific nature of their toxicity, the detailed review was also intended to determine if it would be appropriate to apply these recalculated values statewide. The studies GEI utilized were carried out over a pH range of 6.5 to 9.0. EPA previously established this pH range as an optimal in ambient freshwater (USEPA 1976), it is not reflective of the pH range that will be seen in all waters in New Mexico. Although GEI recognized the inverse toxicity and hardness relationship (within the pH range of 6.5 to 9.0) in the development of the acute equation, it does not appear that the significant effects that site-specific factors such as pH have on metals and particularly on aluminum toxicity were fully considered in applying these equations as statewide criteria. The pH significantly influences speciation and/or complexation of aluminum at low pH and should have been considered carefully in determining if these recalculated values would be appropriate when adopting these values as statewide criteria.

Given the significant variability in both pH and hardness in waters in New Mexico, EPA does not believe that these hardness-based equations are appropriate as a basis for statewide criteria and may not be protective of beneficial uses in all waters of the State. EPA has determined that the hardness-based equations would be protective for waters within the pH range of 6.5 to 9.0, particularly at low hardness levels, but would not be protective for waters below that pH range. Therefore, EPA is approving the hardness-based equation for aluminum for only those waters of the State where pH is equal to or greater than 6.5, but is disapproving these equations in waters where the pH is less than 6.5. To resolve this disapproval, EPA recommends that the State adopt a footnote for these equations specifying the following:

> "Where pH is equal to or greater than 6.5 in the receiving water after mixing, the chronic hardness-dependent equation will apply. Where pH is 6.5 or less in the receiving water after mixing, either the 87 µg/l chronic total recoverable aluminum criterion or the criterion resulting from the chronic hardness-dependent equation will apply, whichever is more stringent."

In the interim, for waters of the State where pH is 6.5 or less, in the receiving water after mixing, EPA will apply the 304(a) recommended 87 µg/L chronic dissolved aluminum criterion.

Literature Cited

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