Antidegradation Issues

Iowa/KS Scoping Meeting

November 2007

Introduction:

Antidegradation is one of the three major components of all States Water Quality Standards program. Antidegradation itself is ideally made of two main parts 1) the antidegradation policy and 2) the antidegradation implementation procedures. The basis for antidegradation is Section 101(a) of the Clean Water Act which states, "...restore and maintain the chemical, physical, and biological integrity of the Nation's waters..." The regulatory details, though minimal, are provided for in the 40 CFR 131.12 which layout the foundation for the three "tiers" of waters to be considered when States establish antidegradation policies.

These three tiers ideally receive differing levels of consideration when determining the effects of potential degradation.

Tier I waters – existing instream water ***uses shall be maintained***.

Tier II waters – where water quality exceeds what is necessary to maintain beneficial uses the ***water quality shall be maintained***, unless allowable through antidegradation implementation.

Tier III waters – where waters constitute an Outstanding National Resource, the ***water quality shall be maintained*** and protected. Essentially no change is quality is allowed.

There is very minimal guidance nationally from the EPA on the topic of antidegradation. Guidance produced by EPA Region 8 is the most comprehensive; however it is unclear if all of the concepts put forth in the document are embraced by EPA Headquarters and the remaining nine Regional Offices. Most remaining guidance from EPA is dated and consists of specific individual topics and not a comprehensive blueprint for antidegradation policies or implementation.

Although little guidance exists, there is mounting pressure nationally for improved antidegradation implementation. Numerous civil lawsuits have been filed by third parties seeking better definition in State antidegradation policies and implementation. It is anticipated many additional States will face "cookie cutter" lawsuits similar to those experienced in the TMDL program. Therefore, it is in the best interest of EPA and the States to carefully review existing antidegradation policies and implementation procedures to ensure they will withstand public scrutiny.

Iowa (IDNR) and Kansas (KDHE) have both chosen to review and improve their respective antidegradation policies and implementation procedures in the upcoming year. As such, each state will need to amend its water quality standards and has chosen to do so following the recently developed *Kaizen* process jointly developed by EPA Region 7 and the Region 7 States – Iowa, Kansas, Nebraska, and Missouri.

This document lays out the issues IDNR and KDHE staff believe are necessary to resolve with EPA prior to moving forward in their regulation adoption processes.

I. Establishing Tiers of Waters

Formatted: Bullets and Numbering

A. General observations/overview
   1. Tiers 2 and 3 seem to represent ranges of quality. Tier 1 seems to represent a point value – a water quality criterion necessary to support a use. Is this a correct interpretation? If so, is it practical to implement Tier 1 as a point value?

2. What Tier is assigned to impaired waterbodies?

B. Tier 1
   1. What methods are approved nationally for identifying Tier 1 waters?
      a. 303d listed waters?
      b. 303d listed for "fishable/swimmable" uses only?
      c. Others

C. Tier 2 ← **Formatted:** Bullets and Numbering
   1. What methods have been approved nationally to identify Tier 2 waters?
      a. Non-303d listed waters?
      b. Non-303d listed for "fishable/swimmable" uses only?
      c. Percentage below a criterion?
      d. Others
   2. Waterbody by Waterbody (WbW) approach
      a. "All in" approach – entire waterbody is Tier 1 or Tier 2. One parameter can drive the difference between Tier 1 and Tier 2 for an entire waterbody. For instance, high natural chloride may drive a waterbody to be Tier 1, thus allowing ammonia, copper, etc. to be discharged up to the point the ambient stream water is at the criterion value.
      b. Tier 3 appears to be a WbW-only approach. Is this a correct interpretation?
      c. Is it expected that successful TMDL will change a waterbody from a Tier 1 water to a Tier 2 water if a WbW approach is used?
   3. Parameter by Parameter (PbP) approach. ← **Formatted:** Bullets and Numbering
      a. Waterbody may be Tier 2 for some pollutants, Tier 1 for others. Is there a mandatory set of parameters to evaluate? For instance parameters for applied to the fishable/swimmable uses.
      b. Tier 3 does not seem to lend itself to a PbP approach. Are there examples where PbP has been applied to Tier 3 waters?
   4. A blended approach – Can a State identify which waters are Tier 1 and Tier 2 on a WbW basis, but apply permitting requirements on a PbP basis? ← **Formatted:** Bullets and Numbering

D. Tier 2 ½ Waters ← **Formatted:** Bullets and Numbering
   1. Does EPA approve of Tier 2 ½?
   2. If so, what does EPA approval hinge on since Tier 2 ½ is not specified in 40 CFR 131.12?

E. Tier 3 – Outstanding National Resource Waters (ONRW)
   1. Which waters qualify? Regulation says high quality waters shall be maintained. Can a *low quality* water be an ONRW – for instance a unique salt marsh? Can impaired waters be ONRWs since they are not of high quality?
   2. Is public *nomination* procedures required?
      i. If so, what are the minimum required elements?
      ii. If so, what legal remedies do nominating parties have if a State rejects a nomination?
      iii. What role does EPA have in *approving/disapproving* a State's rejection of a nomination?
   3. Can ONRW only be applied in a WbW approach – entire water body protected? How could it be applied PbP?

← **Formatted:** Bullets and Numbering

II. Implementation for NPDES permits

A. Waterbody by Waterbody vs. Parameter by Parameter discussion
   1. In WbW, we assume all parameters can be discharged to the point ambient stream water quality is raised to the water quality criterion for each parameter for Tier 1 waters. Is this correct?
   2. In WbW, how have states maintained and protected the high quality "waterbody"? In other words, what defines waterbody quality? Seems you would have to revert to PbP for a subset of parameters.

B. Applicable uses.
   1. Parameters related to 101(a)(2) uses (i.e. fishable/swimmable)?
   2. All uses?

C. Establishment of existing baseline water quality.
   1. Can a State use Storet/State data for known sites at a fixed point in time? Can surrogate streams be utilized for non-monitored sites?
   2. Can the baseline be reviewed and modified in the future – either up or down? Can see instance where natural background may change over time.
   3. Others.

D. *De minimus* discharge levels
   1. Different model – strengths and weaknesses
      a. Percentage above a baseline. Has this been approved?
      b. Percentile of existing baseline – PA approach. This appears to allow a continuously moving baseline – albeit very small increments. Is this approvable?
      c. Percentage of assimilative capacity. Does this conflict with state goal of protecting highest quality waters?
      d. Others.
   2. Is a cumulative cap mandatory?
      a. If so, who keeps the book on how much capacity has been used? How are those determinations guaranteed in perpetuity?
      b. If so, can *de minimus* be implemented fairly – first in time, first in right?
      c. Is *de minimus* applied to the mixing zone, or to the entire waterbody (100% mixing zone)? It seems it would be to the entire waterbody since we are looking at degradation of an entire body of water, not just at the end of a prescribed mixing zone.

E. Alternatives Analysis
   1. Recommended costing models.
      a. EPA Economic Guidance Document
         i. Weaknesses in municipal assessment tool.
            + Is current or future population used for calculating % of MHI?
            + Are sewer rates the only costs allowed, or can a city distribute other costs (e.g. new home costs in the form of special assessments for sewers)?
            + How have other handled the "gray area" of 1-2% of MHI? It represents a 100% difference in cost.
         ii. Weaknesses in private sector assessment tool.
            + How are public utilities (i.e. guaranteed profit) handled?
            + How are start up companies handled (they may be weakly capitalized initially)?

Formatted: Bullets and Numbering
Formatted: Bullets and Numbering
Formatted: Bullets and Numbering
Formatted: Bullets and Numbering
Formatted: Bullets and Numbering
Formatted: Bullets and Numbering

b. EPA Region 8 Rule of Thumb-110% of lowest cost option to meet Tier 1.
   i. Does HQ support this Rule of Thumb?
   ii. How is the lowest cost option developed?
c. Other models commonly used.

2. What defines the minimally feasible alternative against which others are compared? Permit as if the facility is in a Tier 1 water – i.e. simply ensure the use is maintained?

F. Public Notice
1. Can antidegradation analysis be a part of the NPDES permit public notice, or must it be a separate public notice?
2. How much information regarding the antidegradation analysis must be contained in the Public Notice?

III. Important Social OR Economic Development Analysis

A. What is required in the analysis? In some states, it appears the mere need for a city to experience growth is sufficient (see Georgia Supreme Court case – Hughey et al. vs Gwinnett County).

B. What guidance is used in the analysis? Does it have to be EPA's or is a state developed guidance acceptable?

C. How does it work for municipalities vs. industry?

D. What social and economic parameters are appropriate?

IV. When is an individual Tier 2 antidegradation review not needed?

A. Can *temporary* and localized activities that do not pose a long term risk to the existing or designated uses of the surface water qualify be exempted from a Tier 2 review (i.e. certain 401/404 permitting activities, groundwater remediation discharges, etc.)?

B. General Permits. Again, for something like construction stormwater that is temporary, can a blanket approval be provided if specified BMPs are in place?

C. Can non-discharging types of pollution control – for instance total retention CAFO facilities be exempted from a Tier 2 review? If not, what type of analysis would be applied to a system that is designed to not discharge?

V. Non-point sources and antidegradation review.

A. It is our understanding that a nonpoint source (NPS) is only a consideration for Tier 2 review. Is that a correct understanding?

B. Does the NPS BMP provision of Tier 2 only apply to ***regulated*** NPS such as non-NPDES CAFOs and septic tank lateral fields?

C. How have other States applied the nonpoint source provision for Tier 2 in a manner satisfactory to EPA?

Formatted: Bullets and Numbering